



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/988,593	11/20/2001	Shigenobu Maeda	50099-180	8927

7590 04/10/2003
MCDERMOTT, WILL & EMERY
600 13th Street, N.W.
Washington, DC 20005-3096

EXAMINER

PHAM, THANH V

ART UNIT PAPER NUMBER

2823

DATE MAILED: 04/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/988,593

Applicant(s)

MAEDA ET AL.

Examiner

Thanh V Pham

Art Unit

2823

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 12-24 is/are pending in the application.
- 4a) Of the above claim(s) 12-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The drawing amendment of figures 34-36 filed on 03/10/03 is acceptable.
2. The amendment of claims 1 and 10 does not overcome all of the rejections stated in the previous Office action.
3. New claim 10 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The reason is stated in the Response to Argument.
4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
5. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The "prescribed element" is critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). It is suggested that the limitation of claim 6 is recited after the above quoted terms to make enable the claimed invention then claim 6 could be deleted.
6. *Assuming the claims are understood as the suggestion stated in the above objection and rejection*, claims 1-9 are rejected under 35 U.S.C. 102(a) as being anticipated by Flaker et al. U.S. Patent No. 6,410,369 B1.

The Flaker et al. reference, in its abstract and the detailed description, discloses a semiconductor device having an SOI structure formed by a semiconductor substrate, an embedded insulating layer 48 and an SOI layer 46, comprising: a plurality of element forming regions, each formed with different elements (fig.'s 8 and 10); an isolation film 40 (fig. 10B) provided in an upper layer part of said SOI layer for isolating said plurality of element forming regions from each other; a first conductivity semiconductor region (*body link, fig. 10B*) provided under said isolation film 40 as part of said SOI layer, said *first conductivity* semiconductor region being formed in contact with at least one of said *plurality* element forming regions having a first conductivity type among said plurality of element forming regions; and a first conductivity type body region provided in said SOI layer and capable of being externally fixed in electric potential (fig. 8), said body region being in contact with said *first conductivity* semiconductor region, wherein said *first conductivity* semiconductor region at least partially has a first conductivity type impurity region not mixed with an impurity of a second conductivity type different from said first conductivity type but doped by only an impurity of said first conductivity type and said *first conductivity* semiconductor region is formed in a region reaching said at least one element forming region from said body region (fig. 8). Said second conductivity type impurity-free region include a region having a larger thickness than the remaining region in said isolation film (fig. 19).

With respect to claims 7-9, there are regions on the wafer of the reference that are not active regions and could therefore be labeled as "dummy regions".

7. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flaker et al. U.S. Patent No. 6,410,369 B1 in combination with Ooishi et al. US 6,483,165 B2.

The Flaker et al. reference discloses all of the structure of the instant claimed invention as stated in the 102 rejection above but does not state clearly the dummy region.

In re claims 7-9, if the dummy regions are not inherently formed, the examiner takes official notice that, in the semiconductor manufacturing, not all of the elements formed on a wafer are used; therefore, whichever is not used is converted to dummy element wherein its formation bears the same layered structure of the others. *Or else, in the Ooishi et al. reference's col. 39, e.g., the dummies are used for one purpose such as stabilizing the shapes of finished elements.*

It would have been obvious to one of ordinary skill in the art at the time the invention was made to convert the unused element to be dummy *as in the Ooishi et al. reference* into the device of Flaker et al. because the dummy element would have been implied/applied to improve the structure in accordance with the teaching of the Flaker et al. reference.

Response to Arguments

8. Applicant's arguments filed 03/10/03 have been fully considered but they are not persuasive.

9. In response to applicants' argument on page 5, it is known in the art that any kinds of elements could be performed on a semiconductor substrate, however the

"prescribed element" *in this instant invention is a transistor and a gate electrode of said transistor* is critical or essential to the practice of the instant invention, but not included in the claim, therefore, it has been suggested, as in the previous office action, that the "prescribed element" should be stated to prevent the claim not enabling.

10. In response to applicants' argument in the first paragraph on page 8 about a first conductivity type body region provided in said SOI layer and capable of being externally fixed in electric potential, applicants are directed to the square element above the body link 32 of fig. 8 which is identical with the recited element.

11. In response to applicants' argument on page 8 on the "dummy regions", with respect to specification's pages 7-8 wherein the dummies are defined as elements "not to function as an element", the taken official notice in the previous office action is proper. However, to further support for the official notice and as request by the applicant on page 10, US 6,483,165 B2 is named as an example.

12. In response to applicants' argument in the paragraph bridged pages 8 and 9 that the portion of the body link 32 would contain both type of impurities and the description of the instant invention of the next paragraph, applicants are directed to col. 6, lines 7-23 wherein the reference assures a precise control of the forming of element 62, therefore, no mixed impurities would exist in the body link 32.

13. In response to the argument on the 50 nm of claim 10, the argument is moot because the new claim 10 recites the limitation of "a portion (*of said isolation film*) having a thickness of not more than 50 nm" which creates ambiguity. Any thickness

Art Unit: 2823

larger than 50 nm could have a portion not more than 50nm thick. Therefore the new claim is failing to further limit the subject matter of a previous claim.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

15. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh V Pham whose telephone number is 703-308-2543. The examiner can normally be reached on M-T (6:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on 703-306-2794. The fax phone numbers

Art Unit: 2823


for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Twp

TvP

March 21, 2003


George Fourson
Primary Examiner